

**Virginia Cave Board  
February 16, 2013  
Virginia Natural Heritage Office  
217 Governor Street  
Richmond, Virginia**

**Virginia Cave Board (VCB) Members Present**

Ruth Blankenship  
Robert Denton, Jr.  
Dan Doctor  
John Graves  
Rick Lambert  
Tom Lera  
Steve Lindeman  
Judy Molnar  
Meredith Weberg  
Roger Kirchen, representing Dept. of Historic Resources

**Virginia Cave Board Members Absent**

None, two vacant positions

**Department of Conservation and Recreation (DCR) Staff Members Present**

Chris Hobson  
Wil Orndorff  
Larry Smith  
Rebecca Stewart  
Tom Smith

**Chairman Meredith Weberg called the meeting to order at 2:21 p.m.**

As voted at the previous November 3, 2012, meeting, Technical Committee and Education and Outreach Committee issues were discussed prior to the public meeting. Each issue discussed is summarized below.

**Introductions and Announcements**

Ms. Weberg led the introductions of all VCB members, visitors and DCR staff to those present and officially welcomed the four recently appointed VCB members (Ms. Ruth Blankenship; Mr. Robert Denton, Jr.; Mr. ., John Graves, and Mr. Rick Lambert) to their first meeting as official Board members. Mr. Larry Smith announced that Vice Chair Dave Socky was not reappointed to the VCB. Ms. Weberg announced that she had accepted Ms. Babs Bodin's resignation from the Board. This leaves two vacant VCB positions.

**Election to fill Vice Chair and Secretary Positions**

Ms. Weberg requested volunteers to serve the vacated positions of Vice Chair and Secretary, briefly describing the duties of each position. Judy Molnar volunteered to be Secretary to the end of her term of appointment in June. Mr. Steve Lindeman volunteered to serve as Vice Chairman.

**MOTION:** Dr. Dan Doctor moved that Ms. Molnar fill the position of Secretary and Mr. Lindeman fill the position of Vice Chairman so that Board business could continue.

**SECOND:** Ms Weberg seconded the motion.

**VOTE:** Vote was unanimous to elect Ms. Molnar to the position of Secretary of the Board and Mr. Lindeman to the position of Vice Chairman.

#### **Approval of Minutes from the Meeting of November 3, 2012**

**MOTION:** Mr. Tom Lera moved that the minutes of the meeting of November 3, 2012, be approved as amended.

**SECOND:** Mr. Lindeman seconded the motion.

**VOTE:** The motion passed unanimously.

#### **Treasurer's Report**

Mr. Larry Smith reported that the current balance of \$1608 was provided by the Cave Conservancy of the Virginias for use in printing and mailing the next *Virginia Cave Owners' Newsletter* (VCON)

#### **DCR Karst Program Update: November 2012 through February 15, 2013**

Mr. Wil Orndorff's report is inserted here in its entirety, unedited.

{begin report here}

#### **Karst Hydrology**

Dye tracing studies supported by the Cave Conservancy of the Virginias continue in Thompson Valley, Tazewell County and Wolf Creek, Giles County. Projects were performed in cooperation with the Virginia Department of Game and Inland Fisheries, Joseph Fagan and Associates, and volunteers from the Virginia Speleological Survey and VPI Student Grotto. Sinkholes east of Higgenbotham #1 and #2 caves in Tazewell County have been traced to Lost Mill Spring, ~ 3 miles to the west, and presumably pass through Higgenbotham #2 and Corkscrew caves. In Giles County, the presumed connection between two significant caves (Tin Can Chasm and Blankenship Blowhole), a surface sinking stream, and springs on Wolf Creek was verified.

#### **Cave Invertebrate Biology**

The "Invertebrate Cave Fauna of Virginia," a collaboration by former VCB members Dave Culver (lead author), John Holsinger, and David Hubbard with DCR staff Chris Hobson and Wil Orndorff has been submitted to *Banisteria* (The Journal of the Virginia Museum of Natural History) for review. Publication anticipated in 2013.

DCR Natural Heritage staff led by Karst Protection Assistant Rebecca Stewart completed the final report **Status Assessment for the Ellett Valley *Pseudotremia millipede* (*Pseudotremia cavernarum* Cope) in Virginia**. Eleven caves in the Blacksburg area of Montgomery County were surveyed, with millipede specimens obtained in four. One of these caves yielded numerous specimens of *Pseudotremia cavernarum*, and is a new locality for the species. However, this cave is within the previously known range of the species, and thus is not a particularly significant discovery. Two caves to the north of the known range yielded juvenile specimens of *Pseudotremia* millipedes, not identifiable to species level. Additional baited sampling is planned to attempt capture of adult, male *Pseudotremia*, necessary for identification to species level.

Should these turn out to be the Ellett Valley millipede, it would represent a significant range extension that would affect the conservation status of this species. The entire currently verified range of the species is under intense development pressure, making the Ellett Valley millipede one of Virginia's most imperiled cave obligate species.

### **Bats and White-Nose Syndrome (WNS)**

Lee County was the last of Virginia's karst counties with significant documented bat populations to be verified positive for White Nose Syndrome. Cumberland Gap National Historic Park staff observed bats on the landscape in early February, including several obviously sick animals. Dead bats were collected and sent to regional analytical laboratories to test for White Nose Syndrome. The results came back positive, and the U. S. Park Service issued a press release in the second week of February announcing the discovery of White Nose Syndrome at the Park. Caves within Cumberland Gap National Historic Park are home to several species of bat, including Little brown bats (*Myotis lucifugus*), Tricolored bats (*Perimyotis subflavus*), and the federally endangered Indiana bat (*Myotis lucifugus*). Little brown and Tricolored bats have experienced mortality in excess of 90% at affected locations within two years of the appearance of WNS, while Indiana bats appear to experience more variable and much lower, but still significant, mortality. In Virginia counties where WNS has been present for three or more years, in almost all caves where Indiana bats are present they now outnumber both Little brown and Tricolored bats.

The biennial bat counts currently being performed by the Virginia Department of Game and Inland Fisheries in collaboration with the Virginia DCR Natural Heritage Program show no indication of any increase or stabilization in numbers for Little brown or Tricolored bats. In some caves, populations have been reduced to ~ 1% of their pre-WNS levels.

### **Unthinks Cave Septic Issue**

DCR Natural Heritage Program staff worked with the owners of the home nearest the septic infeasider to test for a connection between their septic field and the cave. The connection was verified by a dye trace study. DCR funded a septic tank pump out for the homeowners. Monitoring will follow over the next year to see if this was sufficient to eliminate the problem or at least reduce it to acceptable levels. It is likely that the problem was apparent in October due to the extreme drought conditions, which resulted in a situation where the vast majority if not all of the water coming in the contaminated tributary was from the septic tank. A variety of potential funding sources to provide assistance to the landowners for septic field replacement with an alternative system are being explored.

### **Appalachian Landscape Conservation Cooperative**

Virginia DCR Natural Heritage staff has worked with the Appalachian LCC, a US Fish and Wildlife Service regional ecological planning initiative, to identify caves and karst as one of the science needs priorities for 2013.

{end report}

### **Suggested Update to "Caving Protocols in Response to WNS in Virginia July 12, 2010"**

During his presentation of the DCR Karst Program Update above, Mr. Orndorff proposed that since the entire state of Virginia is now WNS-positive, the VCB should consider revising its Caving Protocols as posted on the VCB website in July 2010. He submitted that the

decontamination of cave gear used within Virginia is no longer necessary. Mr. Orndorff suggested VCB policy should still include honoring any cave closures and that caving gear used in Virginia caves should not be brought into any WNS-free areas outside of Virginia.

### **End of DCR Karst Program Update**

#### **Virginia Cave Owners' Newsletter (VCON)**

Ms. Weberg noted that only one article was received for the VCON by the deadline. The next newsletter will be a short 4-page format that can be easily folded, stapled, and mailed. Articles due February 28<sup>th</sup> to Ms. Weberg include: short bio of each VCB member, shortened VCB member contact information, a blurb on the VCKT by Ms. Weberg, and an introduction to cave conservancies compiled by Ms. Stewart. An article on LIDAR (light detection and ranging) mapping by Dr. Doctor will be postponed for a later issue, which will be electronic only. The electronic format can include web links to images and better present the image-rich mapping topic.

Other topics for future VCON issues were suggested: quick news blurbs, ongoing education, and other VCB projects.

#### **Site Assessment Guidelines for Karst Areas**

Mr. Denton updated the VCB on the Technical Committee's work on developing standard site assessment guidelines for karst areas. He announced that his paper, "Developing a Standard Practice for Karst Assessment," submitted to the 13th Sinkhole Conference [to be held in Carlsbad, New Mexico, at the National Cave and Karst Research Institute Headquarters, on 6-10 May 2013] was accepted and will be published with the other conference papers post-conference.

Mr. Denton shared a shortened Power Point presentation prepared for the Sinkhole Conference with the VCB before the public meeting. The goal of this paper is to propose a standard practice for karst assessments that will help delineate potential karst hazards so that they can be avoided, managed, or corrected by remediation. Requirements for investigators, a proposed scope of services, fieldwork and data review checklist, and a template for a follow-up karst management plan were included. The paper recommends that karst features should be mitigated or separated from construction.

Mr. Denton feels that the issue of storm water management in karst is the most important issue to delineate and resolve. Mr. Denton stated that the demand for karst assessment exists, but there are no "across the board" standards. It is hoped this document will form a template that the VCB can promote as Virginia-relevant guidelines for planning commissions, regulators, and developers. The VCB's role can be to highlight the ambiguities in regulations and avoid being prescriptive. Regulations will get specific; the VCB is not writing regulations. Each jurisdiction can decide how to use the guidelines for a due-diligence process for karst assessment.

Mr. Larry Smith suggested the paper be presented to the public at a future Virginia Environmental Conference.

#### **Other Technical Committee Karst Announcements**

Mr. Denton shared a letter and read a poem about caves he received from Mr. George Bowers.

The poem was well received by the VCB and hopefully will be included in an upcoming issue of the VCON after the editor gets the author's permission.

Dr. Doctor discussed ongoing projects with state geologists and others interested in karst databases. The goal is to get a karst feature map available to land planners, assessors, water quality managers and developers. Sinkholes will be included but cave entrances will not. A spring location database has been started at the Department of Environmental Quality.

### **Virginia Cave Week (VCW) April 21–27, 2013**

Ms. Weberg announced that Mr. Dave Socky, former VCB member, has agreed to maintain the VCW website for the short term. Mr. Larry Smith is working to get Mr. Socky reappointed to the VCB. If this is not successful, VCB needs someone else who is web-savvy to be appointed or volunteer to help maintain the VCW website for the VCB.

Ms. Weberg thanked Ms. Molnar for her work in developing a lesson plan, "Cave Water Cycle," for Virginia Cave Week, "Cave Water Cycle," to that will be posted at [www.vacaveweek.com/lessons.htm](http://www.vacaveweek.com/lessons.htm) after several edits suggested by Mr. Orndorff and Ms. Carol Zokaite [Chief of Environmental Education and Project Underground Coordinator] via email.

The possibility of an Open House to be held at Ogdens Cave (Frederick County) during VCW was discussed. Mr. Orndorff will contact the land stewards to see if the event can be arranged and Dr. Doctor offered additional activities for the event.

Ms. Weberg will draft a press release for the governor's office to issue in time to go out to media outlets statewide.

Ms. Weberg solicited VCB members to become liaisons with each of the commercial caverns in Virginia to communicate with them about VCW and any other VCB matters of interest. After discussion the following list was generated:

Crystal Caverns [surface karst area open, cave closed] – Rick Lambert

Gap Caverns – Steve Lindeman

Dixie Caverns – Ruth Wilson-Blankenship

Endless Caverns – Tom Lera

Grand Caverns – Judy Molnar

Luray Caverns – John Graves

Natural Bridge – Dan Doctor

Shenandoah Caverns – Meredith Weberg

Skyline Caverns – Robert Denton, Jr.

Liaisons should contact their commercial cavern to see if they would publicize VCW and offer discounts to visitors and school groups for that week.

A question was raised: should VCB set a standing meeting agenda item for "Show cave Announcements." There was general agreement on this.

### **Virginia Cave and Karst Trail (VCKT)**

Mr. Larry Smith distributed a document “About Logos” before the public VCB meeting from DCR staff Julie Buchanan. It summarized in general what makes a good logo, principles of effective logo design, and included some examples. Ms. Buchanan suggested one or two VCB members could work with her and DCR staff on drafting several logo ideas for the VCKT. Ms. Molnar and Ms. Weberg volunteered. Mr. Smith suggested that he, Ms. Buchanan, Ms. Molnar, and Ms. Weberg plan a conference call to work on the logo. Mr. Orndorff suggested the logo include references to human uses of water. Ms. Weberg reminded all that the image must work on all size levels, from letterhead to road sign size.

Dr. Doctor has begun plotting a Google Earth map with data supplied by VCB members of sites both currently on and sites that would be good candidates for inclusion on the VCKT. Dr. Doctor solicited from VCB members short descriptions of these sites and to submit any images that can be inserted on the map to pop up when a cursor clicks on the map icon for that site.

Ms Weberg will draft a letter to the show caves to formally invite them to be a part of the VCKT and for their permission to put them on the interactive website map.

### **Land Conservation Report**

Mr. Lindeman discussed continued work by The Nature Conservancy, Virginia DCR, Virginia Department of Environmental Quality, United States Fish and Wildlife Service, and other partners to conserve the watershed of the Thompson Cedar Cave system to protect the Lee County isopod in that cave system, as well as additional federally endangered mussel and fish species found in the Powell River.

Mr. Larry Smith announced a recent 21-acre land purchase that includes the stream feeding Ogdens Cave (Frederick County).

Mr. Larry Smith announced the desire of the Steger family in Grottoes for a DCR conservation easement on their property to protect it from condemnation and eminent domain acquisition by the Town of Grottoes for a water line/utility right of way. Mr. Smith plans to meet with the new mayor and City Council of Grottoes to present the cost of all options open to them in hopes that the city will abandon the land condemnation as being one of the most costly of all their water line options.

### **Current Board Vacancies**

Mr. Larry Smith asked Mr. Lera and Ms. Molnar if they would consider being reappointed to the VCB after their current appointments expire June 30<sup>th</sup> of this year. Both members declined. Ms. Weberg and Mr. Smith solicited a list of potential candidates to approach with the goal of filling the two current and two upcoming VCB vacancies. The list included several former VCB members and past friends of the Board.

### **New Business**

In the middle of a previous discussion about how to publicize the VCKT, Mr. Lera suggested the VCB start a Twitter account or blog to advertize the Trail. Discussion dovetailed with the lack of younger members on the VCB who are cyber savvy and the need for someone to maintain the VCW and upcoming VCKT websites. Mr. Lera suggested the use of volunteers, especially

college graduate students, who would receive academic credit and resume-building experience while helping the VCB with various projects.

**MOTION:** Mr. Lera moved that the VCB explore the establishment of one or more voluntary internships to be offered to college graduate students that would provide useful services such as website management and maintenance, VCB social media presence, and other needed assistance to VCB projects.

**SECOND:** Ms. Weberg seconded the motion.

**VOTE:** The motion passed unanimously.

Mr Lera volunteered to send a template for a brief job description for this internship with the help of other VCB members so it could be disseminated to possible candidates through academic institutions. Mr. Lambert said he already had at least one person in mind for this internship.

### **Sinkhole Guidance Document**

Mr. Lera asked the VCB if it should prepare a Sinkhole Guidance Document. The question was brought up during the discussion as to whether the Virginia Department of Transportation (VDOT) has a document already, and if so should the VCB accept it, promote it, or reject it?

Mr. Denton said he would check on what documents VDOT has available to see if they will suit the purposes of the VCB or be more than the VCB needs.

### **Public Comment Period and Announcements**

Mr. Lera brought up the topic of *Growing Communities on Karst*, a series of symposia originally begun in 2003, sponsored by Potomac Headwaters, where resource managers, municipal planners, and other professionals could meet, learn and discuss the various problems and solutions to living in and near karst landscapes. Mr. Lera felt that the VCB should have a presence at any future similar symposia, so that VCB can present what we do and what guidelines are in place, or discover what guidelines are needed for mitigation, development, or stormwater management on karst. Discussion revolved around the role of the VCB at any community symposia and whether the symposia would occur in the near future. The present economy does not seem friendly to this kind of meeting, due to restrictions on travel expenses, professional development, and staff time.

### **Date for Next Meeting**

VCB members discussed and agreed on June 8, 2013, as the date for the next VCB meeting, location in Charlottesville TBA by email

**Ms. Weberg adjourned the meeting at 3:40 p.m.**

*Submitted by Ms. Judy Molnar*